

REMARKS

Claims 17 and 35-45 are presented for further examination. Claim 17 has been amended. Claims 35-45 are new.

In the Office Action mailed February 24, 2005, the Examiner indicated that claims 16-23 are pending in the application, with claim 16 being rejected and claims 17-23 found to be allowable. However, applicants note that claim 16 was canceled in the Preliminary Amendment filed November 23, 2004 and that claims 17-23 are the only claims that are pending. Applicants will assume that the rejection indicated for claim 16 is to be applied to claim 17 and that claims 18-23 were found to be allowable if rewritten into independent form.

Applicants respectfully disagree with the basis for the rejection and request reconsideration and further examination of the claims.

Claim 17 as now amended is directed to a method of manufacturing a semiconductor device that includes the steps of attaching a semiconductor die to a substrate, positioning a housing on the substrate in a position surrounding the die, positioning a mold over the housing such that an upper surface of the housing abuts against an upper surface of the mold, and injecting into the mold a molding material to secure the housing to the substrate.

The Examiner has cited claim 1 of U.S. Patent No. 5,049,526 ("McShane et al.") in rejecting claim 17 under 35 U.S.C. § 102(b). McShane et al. is directed to a method for fabricating a semiconductor device that includes a package. Claim 1 of McShane et al., recites the steps of providing a mold having a first cavity for defining a carrier ring shape and a second cavity for accepting an insert, providing an insert for the second cavity of the mold for customizing the second cavity, providing a lead frame, attaching a semiconductor device die to the lead frame, inserting the lead frame with the die attached thereto into the mold, and filling plastic into the mold including the cavity in the insert to *form a plastic body portion encapsulating the die and a plastic carrier ring surrounding the body portion*. Nowhere do McShane et al. teach or suggest the step of attaching a housing over the die and onto the substrate. Claim 17 recites injecting into the mold a molding material that secures the housing to the substrate. Nowhere do McShane et al. teach or suggest securing a housing to the substrate. Rather, McShane et al. teach that an insert 72 provides a "gate which allows the plastic

encapsulating material to flow from runner 64 into cavity 62.” The use of a gate permits “repair and replacement of the gate,” and “the use of insert 72 allows the gate to be modified, as different gates can be substituted by changing the insert 72.” (*See* McShane et al., column 5, lines 3-8). Thus, McShane et al. describe the use of inserts having gates to direct the molding material into a cavity that forms the molding material around the die to thereby encapsulate the die. The inserts and the gates are not attached to the die or the substrate by the molding material. Rather, McShane et al. clearly teach that the insert and the gate are to be used repeatedly until worn out or until changed to provide a different mold feature.

In view of the foregoing, applicants respectfully submit that claim 17 is clearly allowable.

New claim 35 is directed to a method of manufacturing a semiconductor device having a substrate and a die attached to the substrate where a housing is placed on the substrate to cover the die, a mold is positioned over the housing so that the mold bears against the housing, and injecting a molding material into the mold to secure the housing to the substrate. Applicants respectfully submit that claim 35 is allowable for the reasons discussed above with respect to claim 17, *i.e.*, that McShane et al. do not teach or suggest securing a housing to the substrate.

New dependent claims 36-41 are allowable for the reasons that claim 35 is allowable as well as for the new features recited therein. For example, claim 36 recites urging the mold against the housing to deform at least a portion of the mold. Nowhere do McShane et al. teach or suggest this feature.

Claims 42-45 are directed to a method of manufacturing a semiconductor device that includes, *inter alia*, securing the housing to the substrate by injecting a molding material into a mold that is positioned over the housing to surround a die on the substrate. Applicants respectfully submit that these claims are allowable for the reasons discussed above with respect to claims 17 and 35.

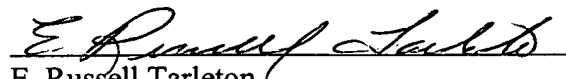
In view of the foregoing, applicants respectfully submit that all of the claims in this application are now in condition for allowance. In the event the Examiner finds minor informalities that can be resolved by telephone conference, the Examiner is urged to contact applicants' undersigned representative by telephone at (206) 622-4900 in order to expeditiously

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resolve prosecution of this application. Consequently, early and favorable action allowing these claims and passing this case to issuance is respectfully solicited.

The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

Respectfully submitted,
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